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09/889,913	12/13/2001	Kineo Matsui	MES1P043	3027

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EXAMINER	
HENNING, MATTHEW T	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/889,913	MATSUI, KINEO	
	Examiner	Art Unit	
	Matthew T. Henning	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5 and 7-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5 and 7-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 July 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

This action is in response to the communication filed on 7/27/2007.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 7/27/2007 have been fully considered but they are not persuasive.

Regarding applicant's argument that the examiner has not addressed arguments with regards to the Bhaskaran prior art reference, the examiner notes that Bhaskaran has not been relied upon in rejecting the claims and therefore the arguments are moot. Therefore the examiner has not addressed these particular arguments.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., considering the relationship between quantized coefficients of adjacent blocks; embedding a digital watermark into a non-zero high-frequency component excluding a DC component) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As such, the examiner has not further addressed these arguments.

Regarding applicant's argument that Inoue does not compare coefficients between blocks, the examiner does not find the argument persuasive. As previously stated on page 2 of the office action mailed June 12, 2006, although Inoue does not explicitly state that the blocks are "compared", Inoue does disclose determining the "mean" of the coefficients of the blocks, as can be seen in Col. 46 Lines 5-15 as well as Fig 14. Calculating the mean coefficient of a group

of blocks is a comparison of all the blocks in order to determine the average coefficient between the group of blocks, and as such falls within the scope of comparing coefficients between at least two blocks. This is analogous to finding the average height of the students of a classroom, in which the heights of the students must be compared in order to determine the average height. Furthermore, as seen in Col. 46 Lines 16-30, the mean coefficient is used in the embedding process. Further still, the blocks have a predetermined relationship in that they are from the same input image. Therefore, the examiner does not find the argument persuasive.

The examiner notes that the newly added limitations of the claim language appear to describe nothing more than common properties of JPEG compressed image data, and as such have been addressed accordingly below.

All objections and rejections not set forth below have been withdrawn.

Claims 1-3, 5, and 7-20 have been examined.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "wherein embedding the bit information is carried out when the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero" must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In this case, the applicant has failed to show where, in the specification, support for the limitation of "wherein embedding the bit information is carried out when the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero" can be found, and the examiner us unable to find proper support for this newly added limitation. See the rejection of the claims under 35 USC 112 1st Paragraph below.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 5, and 7-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In this case, the applicant has failed to show where, in the specification, support for the limitation of "wherein embedding the bit information is carried out when the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero" can be found, and the examiner us unable to find proper support for this newly added limitation. As such, the ordinary person skilled in the art would be unable to ascertain whether the applicant was in possession of the invention as claimed at the time of application. Therefore, the claims are rejected for failing to meet the written description requirement of 35 USC 112 1st Paragraph.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 7-8, 13-14, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al. (US Patent Number 6,477,276) hereinafter referred to as Inoue, as evidenced by Wallace ("The JPEG Still Picture Compression Standard").

Regarding claim 1, Inoue disclosed a method of embedding a digital watermark in a master image (See Inoue Abstract and Figs. 12-14), said embedding method comprising the steps of: extracting blocks of a predetermined size from said master image (See Inoue Col. 45 Line 66 – Col. 46 Line 2); processing image data corresponding to each block by orthogonal transform (See Inoue Col. 46 Lines 2-5); comparing orthogonal transformed coefficients between at least two blocks having a predetermined relationship with each other (See Inoue Col. 46 Lines 5-15) and making the coefficients satisfy a preset order of magnitude according to bit information specified as the digital watermark(See Inoue Col. 46 Lines 16-30); quantizing the coefficients obtained by the orthogonal transform with a quantization table and using the quantized coefficients to embed the bit information (See Inoue Col. 46 Lines 9-39), and processing each block with the embedded bit information by inverse orthogonal transform, so as output a resulting image with digital watermark embedded therein (See Inoue Col. 46 Lines 30-39), but failed to specifically disclose wherein embedding the bit information is carried out when the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data

compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero. However, Inoue did disclose determining a mean, or the average, between coefficients (See Inoue Col. 46 Lines 16-30), which implies that the coefficients have values other than zero.

Further, it was well known in the art at the time of invention that JPEG was a type of compressed image file which contained image data. As such, it would have been obvious to the ordinary person skilled in the art at the time of invention to have utilized the image data embedding teachings on JPEG image data, in order to embed watermarks into JPEG image data. In such a scenario, where the input image data has been JPEG compressed, it is obvious that the common properties of JPEG compressed data would be found in the image data, such as the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero. These common JPEG properties are evidenced by Wallace, as can be seen in Fig. 10 on Page 12 of Wallace. Fig. 10(e), in particular, shows an example of JPEG compressed data in Discrete Cosine Transformed form, and it is clear that not only is the DC component (upper leftmost number 240) is non-zero, but so are some of the lower frequency AC components, while the high frequency components are zero. Again, this is simply a feature of JPEG compression and is important to JPEG compression for the data to be compressible. As such, it would have been obvious to the ordinary person skilled in the art to have used JPEG compressed image data in the watermarking system of Inoue, as well as it would have been obvious that the JPEG compressed image data would have had the claimed properties.

Regarding claim 17, Inoue disclosed an apparatus of embedding a digital watermark in a master image (See Inoue Abstract and Figs. 12-14), said digital watermark embedding apparatus comprising: block extraction means that extracts blocks of a predetermined size from said master image (See Inoue Col. 45 Line 66 – Col. 46 Line 2); transformation means that processes image data corresponding to each block by orthogonal transform (See Inoue Col. 46 Lines 2-5); bit information embedding means that compares orthogonal transformed coefficients between at least two blocks having a predetermined relationship with each other (See Inoue Col. 46 Lines 5-15) and making the coefficients satisfy a preset order of magnitude according to bit information specified as the digital watermark, so as to embed the information (See Inoue Col. 46 Lines 16-30); quantizing the coefficients obtained by the orthogonal transform with a quantization table and using the quantized coefficients to embed the bit information (See Inoue Col. 46 Lines 9-39), and output means that processes each block with the embedded bit information by inverse orthogonal transform, so as output a resulting image with digital watermark embedded therein (See Inoue Col. 46 Lines 30-39), but failed to specifically disclose wherein embedding the bit information is carried out when the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero. However, Inoue did disclose determining a mean, or the average, between coefficients (See Inoue Col. 46 Lines 16-30), which implies that the coefficients have values other than zero.

Further, it was well known in the art at the time of invention that JPEG was a type of compressed image file which contained image data. As such, it would have been obvious to the

ordinary person skilled in the art at the time of invention to have utilized the image data embedding teachings on JPEG image data, in order to embed watermarks into JPEG image data. In such a scenario, where the input image data has been JPEG compressed, it is obvious that the common properties of JPEG compressed data would be found in the image data, such as the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero. These common JPEG properties are evidenced by Wallace, as can be seen in Fig. 10 on Page 12 of Wallace. Fig. 10(e), in particular, shows an example of JPEG compressed data in Discrete Cosine Transformed form, and it is clear that not only is the DC component (upper leftmost number 240) is non-zero, but so are some of the lower frequency AC components, while the high frequency components are zero. Again, this is simply a feature of JPEG compression and is important to JPEG compression for the data to be compressible. As such, it would have been obvious to the ordinary person skilled in the art to have used JPEG compressed image data in the watermarking system of Inoue, as well as it would have been obvious that the JPEG compressed image data would have had the claimed properties.

Regarding claim 19, Inoue disclosed a recording medium in which a program for embedding a digital watermark in a master image is recorded in a computer readable manner(See Inoue Abstract and Figs. 12-14), said program causing a computer to attain the functions of: extracting blocks of a predetermined size from said master image (See Inoue Col. 45 Line 66 – Col. 46 Line 2); processing image data corresponding to each block by orthogonal transform (See Inoue Col. 46 Lines 2-5); comparing orthogonal transformed coefficients between at least

two blocks having a predetermined relationship with each other (See Inoue Col. 46 Lines 5-15) and making the coefficients satisfy a preset order of magnitude according to bit information specified as the digital watermark, so as to embed the information (See Inoue Col. 46 Lines 16-30); quantizing the coefficients obtained by the orthogonal transform with a quantization table and using the quantized coefficients to embed the bit information (See Inoue Col. 46 Lines 9-39), and processing each block with the embedded bit information by inverse orthogonal transform, so as output a resulting image with digital watermark embedded therein (See Inoue Col. 46 Lines 30-39), but failed to specifically disclose wherein embedding the bit information is carried out when the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero. However, Inoue did disclose determining a mean, or the average, between coefficients (See Inoue Col. 46 Lines 16-30), which implies that the coefficients have values other than zero.

Further, it was well known in the art at the time of invention that JPEG was a type of compressed image file which contained image data. As such, it would have been obvious to the ordinary person skilled in the art at the time of invention to have utilized the image data embedding teachings on JPEG image data, in order to embed watermarks into JPEG image data. In such a scenario, where the input image data has been JPEG compressed, it is obvious that the common properties of JPEG compressed data would be found in the image data, such as the coefficients corresponding to a component having a frequency greater than a predetermined value, out of the quantized coefficients of respective blocks, are set to zero due to data

compression, and quantized coefficients of the at least two blocks, which exclude coefficients representing a DC component, are not all equal to zero. These common JPEG properties are evidenced by Wallace, as can be seen in Fig. 10 on Page 12 of Wallace. Fig. 10(e), in particular, shows an example of JPEG compressed data in Discrete Cosine Transformed form, and it is clear that not only is the DC component (upper leftmost number 240) is non-zero, but so are some of the lower frequency AC components, while the high frequency components are zero. Again, this is simply a feature of JPEG compression and is important to JPEG compression for the data to be compressible. As such, it would have been obvious to the ordinary person skilled in the art to have used JPEG compressed image data in the watermarking system of Inoue, as well as it would have been obvious that the JPEG compressed image data would have had the claimed properties.

Regarding claim 13, Inoue disclosed a method of decoding a digital watermark from a master image with the digital watermark embedded therein (See Inoue Fourth Embodiment Beginning in Col. 48), said decoding method comprising the steps of: extracting blocks of a predetermined size from said master image (See Inoue Col. 48 Lines 54-62 and Col. 45 Line 66 – Col. 46 Line 2); processing image data corresponding to each block by orthogonal transform (See Inoue Col. 48 Lines 54-62 and Col. 46 Lines 2-5); and comparing orthogonal transformed coefficients between at least two blocks having a predetermined relationship with each other (See Inoue Col. 48 Lines 62-67 and Col. 46 Lines 5-15) and extracting bit information, based on a preset order of magnitude that is applied to the coefficients (See Inoue Col. 49 Lines 28-38).

Regarding claim 18, Inoue disclosed an apparatus of decoding a digital watermark from a master image with the digital watermark embedded therein (See Inoue Fourth Embodiment Beginning in Col. 48), said digital watermark decoding apparatus comprising: block extraction

means that extracts blocks of a predetermined size from said master image (See Inoue Col. 48 Lines 54-62 and Col. 45 Line 66 – Col. 46 Line 2); transformation means that processes image data corresponding to each block by orthogonal transform (See Inoue Col. 48 Lines 54-62 and Col. 46 Lines 2-5); and bit information extracting means that compares orthogonal transformed coefficients between at least two blocks having a predetermined relationship with each other (See Inoue Col. 48 Lines 62-67 and Col. 46 Lines 5-15) and extracting bit information, based on a preset order of magnitude that is applied to the coefficients (See Inoue Col. 49 Lines 28-38).

Regarding claim 20, Inoue disclosed a recording medium in which a program for decoding a digital watermark from a master image with a digital watermark embedded therein is recorded in a computer readable manner (See Inoue Fourth Embodiment Beginning in Col. 48), said program causing a computer to attain the functions of: extracting blocks of a predetermined size from said master image (See Inoue Col. 48 Lines 54-62 and Col. 45 Line 66 – Col. 46 Line 2); processing image data corresponding to each block by orthogonal transform (See Inoue Col. 48 Lines 54-62 and Col. 46 Lines 2-5); and comparing orthogonal transformed coefficients between at least two blocks having a predetermined relationship with each other (See Inoue Col. 48 Lines 62-67 and Col. 46 Lines 5-15) and extracting bit information, based on a preset order of magnitude that is applied to the coefficients (See Inoue Col. 49 Lines 28-38).

Regarding claims 2 and 14, Inoue disclosed that the predetermined relationship between the at least two blocks is an arrangement of contiguity (See Inoue Fig. 13).

Regarding claim 3, Inoue disclosed that the orthogonal transform is a discrete cosine transform (See Inoue Col. 6 Lines 4-7).

Regarding claim 7, Inoue disclosed introducing a logic function that is true when a difference between the orthogonal transformed coefficients of the at least two blocks having the predetermined relationship is in a preset range; and modifying a procedure adopted to embed the bit information, based on the true and false state of the logic function (See Inoue Col. 47 Lines 32-36 and Col. 40 Lines 1-30).

Regarding claim 8, Inoue disclosed providing a secret key corresponding to each coefficient (See Inoue Col. 47 Lines 32-36 and Col. 40 Lines 1-30 Logical Value), and modifying the procedure adopted to embed the bit information, based on the secret key corresponding to each coefficient and the true and false state of the logic function with regard to the coefficient (See Inoue Col. 40 Lines 1-30).

Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue as applied to claims 4 and 13 above, and further in view of Vora (US Patent Number 6,463,162).

Inoue disclosed embedding data in the coefficients of discrete cosine transformed blocks (See Inoue Col. 46 Lines 1-39), but failed to disclose converting the image to the luminance-chrominance space prior to applying DCT to the blocks.

Vora teaches that in order to increase the space available for embedding, an image should be converted to the luminance-chrominance space prior to embedding (See Vora Col. 4 Lines 4-10).

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Vora in the watermarking system of Inoue by converting the image to the luminance-chrominance space prior to watermarking. This would have been

obvious because the ordinary person skilled in the art would have been motivated to increase the increase the information content of the watermark.

Claims 9-10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue as applied to claim 1 above, as evidenced by Johnson et al. ("Exploring Steganography: Seeing the Unseen") hereinafter referred to as Johnson.

Inoue disclosed providing a basic pattern as information of the digital watermark (See Inoue Col. 4 Lines 30-33), specifying each piece of binary information included in the provided basic pattern as the bit information as the bit information to be embedded (See Inoue Col. 47 Lines 32-34), and embedding the binary information of the basic pattern by setting the at least two blocks having the predetermined relationship to one unit (See Inoue Col. 47 Lines 34-47), and that embedding the basic pattern in the image data was done iteratively a predetermined number of times, when the number of elements constituting the basic pattern is greater than the number of extracted blocks (See Inoue Col. 47 Lines 48-57), but failed to disclose that the basic pattern was defined in a two-dimensional manner as a combination of binary information. However, it was well known in the art at the time of invention that the watermark data to be embedded into an image could also be an image and therefore it would have been obvious to the ordinary person skilled in the art at the time of invention to have embedded an image into the image data of Inoue.

This is evidenced by Johnson, wherein Johnson states that the data to be embedded in an image can be anything that could be embedded into a bit stream, including plain text, ciphertext, and other images (See Johnson Page 27 Col. 2 Lines 1-3).

Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue as applied to claim 9 above, and further in view of Ohbuchi et al. ("Watermarking Three-Dimensional Polygonal Modals"), hereinafter referred to as Ohbuchi.

Inoue disclosed embedding information (See rejection of claim 9 above), but failed to disclose the information being a density pattern.

Ohbuchi teaches that density pattern embedding in polygonal models withstands practically every geometrical transformation attack (See Ohbuchi Page 271 Col. 1 Section 3.5).

It would have been obvious to the ordinary person skilled in the art to employ the teachings of Ohbuchi in the watermarking system of Inoue by using a density pattern as the watermark. This would have been obvious because the ordinary person skilled in the art would have been motivated to provide watermark protection to polygonal models as well as plain images.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue as applied to claim 13 above, and further in view of Rhoads (US Patent Number 6,122,403).

Inoue disclosed arranging the extracted bit information to restore the basic pattern; and decoding the digital watermark from the basic pattern (See Inoue Col. 50 Lines 10-15), but failed to disclose that the extracted information contained a repetitive pattern, or restoring such a pattern.

Rhoads teaches that when watermarking an image, the watermark size should be small and the mark should be repeated many times through the image (See Rhoads Col. 69 Paragraph 1).

It would have been obvious to the ordinary person skilled in the art at the time of invention to employ the teachings of Rhoads in the watermarking system of Inoue by repeating the mark through the image multiple times. This would have been obvious because the ordinary person skilled in the art would have been motivated to allow the watermark to be recovered from only a portion of the image.

Conclusion

Claims 1-3, 5, and 7-20 have been rejected.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew T. Henning whose telephone number is (571) 272-3790. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew Henning/
Assistant Examiner
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10/01/2007

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